

# PHILADELPHIA MEDICAL TIMES.

SATURDAY, JANUARY 30, 1875.

## ORIGINAL LECTURES.

### ON FEVER.

ABSTRACT OF TONER LECTURE.

Delivered January 20, 1875.

BY H. C. WOOD, JR., M.D.

THE definition which declares fever to be "an acute derangement of all the functions," although certainly true, yet fails to give to the mind any idea of the phenomena of fever. When these are analyzed, it will be found that the most important of them are capable of being grouped in three sets: acceleration of the heart's beat and disturbance of the circulation; nervous disturbance; elevation of bodily temperature. Of these groups, the first two are merely secondary to and dependent upon the third: *i.e.*, the essential part of fever is elevation of temperature,—an excessive production of bodily heat. The demonstration of this fact necessitates the proving of the following propositions, the truth of which once acknowledged, the final conclusion becomes inevitable.

First: External heat applied to the body of the normal animal so as to elevate the temperature produces derangement of the nerve-functions, of circulation, etc., etc., precisely similar to those seen in natural fever, the intensity of the disturbance being directly proportional to the rise in temperature.

Second: Heat applied locally to the brain or to the heart produces those disturbances of the functions of the organ which are familiar phenomena of fever, the intensity of the disturbance being directly proportionate to the amount of heat in the organ.

Third: The withdrawal of the excess of heat in fever is followed by a relief of the nervous and circulatory disturbances.

When a dog, cat, or rabbit is confined in a heated atmosphere, the temperature of the animal rises, and at the same time the pulse-rate becomes *pari passu* more rapid, the breathing more hurried, and stupor, coma, partial paralysis, convulsions, and, finally, death occur. Although man is able to bear extremes of temperature far beyond the point which would prove fatal to any given species of animal, he is as susceptible as the animal to an excess of internal or bodily heat. The terrible mortality of sun-stroke, or thermic fever, is a witness to this susceptibility.

These facts, which have been developed more in detail elsewhere, are certainly sufficient to prove that an exposure to external heat will produce all the phenomena of fever.

In a series of experiments upon the action of heat on the nerve-centres, the brains of cats and rabbits were heated by the application to the head of a pig's bladder through which was passed a stream of heated water. It was found that coma, with or

without convulsions, was produced, sometimes coming on gradually, in other instances developing very suddenly; but in either case death was finally brought about by paralysis of respiration, or apnoea. As in these experiments it was found that pouring cold water upon the head at once relieved the coma, the conclusion is logically irresistible that the coma was produced by the heat. The degrees of temperature at which, in the locally-heated brain, consciousness was lost and at which death occurred, were found to correspond closely with the degrees at which the same phenomena took place when a general augmentation of the bodily heat was artificially produced.

It having been determined that heat applied to the brain of an animal is capable of causing cerebral symptoms similar to those seen in fever, the next point is the action of the same force on the heart. When the heart of a frog is removed from the body and exposed to a rising temperature, the pulsations constantly become more and more rapid until a heat-limit is nearly reached, at which the action of the heart ceases.

It is, of course, impossible to experiment directly upon man, but we have very direct evidence that heat affects his organs as it does those of animals. Dr. Liebermeister analyzed the records of two hundred and eighty cases of acute disorder not directly affecting the brain or heart, but accompanied by a rise in temperature, and the following table shows with what great regularity the pulse rises also:

Temperature (Cent.)	37°	38°	39°	40°	41°	42°
Pulse, Mean,	71.6	88.1	97.2	105.3	109.6	121.7

In regard to animals, then, the second proposition has been actually demonstrated by rigid experimentation, and in regard to man it is a scientific impossibility that it be other than true.

The proof of the third proposition is contained in the following experiment, which was repeated several times with similar results. A rabbit was placed in a heated atmosphere, and allowed to remain there until consciousness was entirely lost. It was then taken out and plunged into a bucket of cold water. The temperature of the body fell very rapidly to the normal point, that of the water rising at the same time, and consciousness returning as soon as the body was cooled. In a few minutes the rabbit was able to walk, and the next day had entirely recovered. A few moments' more exposure to the high temperature would have killed the animal: undoubtedly the consciousness was suspended by the action of the heat upon the brain, and undoubtedly it was restored by a withdrawal of that heat. A perfectly parallel series of phenomena occurs in man. A case of so-called cerebral rheumatism was reported by Dr. Wood in this journal (May 30, 1874), in which the patient was absolutely comatose, with a pulse of 160 and 170, and an axillary temperature of 108½° Fahr., but on being placed in a full bath at 60° Fahr. exhibited distinct signs of returning consciousness in a minute and a half, and in three minutes attempted

to get out of the tub. The temperature fell several degrees in a few minutes, and gradually became normal, and the patient finally recovered.

This case in connection with the experiments upon the lower animals seems to establish with absolute certainty the truth of the third proposition.

It having been proven that excessive heat is present in fever, that it is capable of producing the disturbances of innervation and circulation, and that its withdrawal is followed by instantaneous relief of those disturbances, the conclusion is logical that excessive temperature is the cause of the other symptoms of fever; that it is the essential portion; that fever and excessive bodily temperature are synonymous.

Having arrived at a clear idea of what fever is, we are now prepared to investigate its mechanism; to determine, if possible, in what way the rise of bodily temperature is produced.

In fever, all portions of the body are usually in unison, the increased tissue-change which must be at the basis of the elevation of temperature apparently occurring everywhere throughout the system. It is plain that there are only two bonds of union between all portions of the body,—two organs or tissues which fuse, as it were, all parts of the system into one, and that any physiological or pathological process which is equally shared by all must have its origin either in the blood or in the nervous system. Is fever, then, a hæmic disorder, or is it a neurosis?

Let us pause a moment to understand clearly what we mean by fever being hæmic or neurotic. If the poison carried by the blood into all parts of the body acts upon the various tissues everywhere in such a way as to increase in them tissue-change, or if, upon entering the blood, it excites such changes in that fluid as to cause it to incite the tissues everywhere to fever, then that fever may be called with scientific strictness *hæmic*. Suppose, however, we have a fever-centre in the nervous system, and that irritation of a peripheric nerve is capable of causing fever by affecting such centre; then the fever is certainly a neurosis. Granting the existence of a "fever-centre" of this kind, the laws of life teach us that there must be poisons capable of acting upon it so as to produce a fever, which would certainly be *neurotic*, although due to a poison in the blood. With this understanding of the terms, proof is wanting at present that the fever of pyæmia, for example, is strictly hæmic; it may be due to an action of the poison upon the central nervous system. There are, however, numerous fevers in regard to whose origin there can be no doubt, as that due to the irritation of a local inflammation, and especially the so-called urethral fever, etc., where the fever is due to an irritation that effects no local nutritive change, and must, therefore, be produced through the nervous system. A phenomenon which is in itself sufficient to prove that fever is not always due to a diseased condition of the blood is the confinement of the fever in some cases to a part, especially seen in malarial disorder. The conclusions to be drawn from the clinical consideration of the subject are that in some cases fever is undoubtedly a neurosis, whilst in

other cases clinical medicine is unable to decide with certainty whether the elevation of temperature is neurotic or hæmic.

Having investigated the origin of fever from the clinical point so far as we are able, it is evident that we must supplement this study by an experimental investigation directed to discovering to what extent and in what way the nervous system does influence animal temperature.

In 1870, P. Heidenhain announced the following results obtained experimentally:

1. Irritation of a sensitive nerve causes a rise in the blood-pressure, but a fall in temperature.
2. This fall occurs in the posterior part of the body even after the circulation has been entirely cut off by forcible compression of the aorta.

In order to determine clearly the truth concerning the influence of irritation of a sensitive nerve upon temperature, Dr. Wood has performed a number of experiments upon dogs and rabbits, in which the crural and axillary nerves were exposed and subjected to galvanic irritation, while a thermometer was introduced into the peritoneal cavity.

In no case did the temperature fall whilst the current was being applied, but in nearly every case there was a perceptible rise, amounting from an eighth to a half of a degree, and probably due to the rise of blood-pressure and the violent muscular exertion caused by the pain. It certainly occurred at the period at which the blood-pressure was increased. In many experiments upon the action of irritation of a sensitive nerve upon the arterial pressure, Dr. Wood found that if any rise occurred it was immediate, and that in a very brief time after the cessation of the irritation the arterial pressure became normal. The fall of temperature, however, did not commence until after the period of disturbance of the circulation, and in most cases it was very persistent, and progressively increased for many minutes. It is therefore evidently absurd to attribute the fall of temperature to disturbance of the circulation, since at the time of the fall of temperature the circulation is not profoundly affected.

From these data the conclusion seems logically inevitable that the fall of temperature which results from the irritation of a sensitive nerve is independent of the circulation, and is due to a direct influence of the nervous system upon the heat-producing functions of the body.

If the cord of a rabbit or other small mammal be cut in the lower cervical region, the temperature at once falls; and if the air of the apartment be decidedly below the warmth of the body, this fall is permanent. If, however, the animal be thoroughly wrapped in raw cotton or in wool, and if the external temperature be not too low, the fall just spoken of is but temporary, and is succeeded by a rise of temperature which passes far beyond the normal point, so that the animal dies in a state of intense fever.

The question here presents itself, Is the first fall of temperature due to a lessened production, or to an abnormal throwing off of animal heat? The fact that after the secondary fever has been developed the temperature will again fall if the animal

be exposed to cool air, certainly shows that the body throws off heat more rapidly than normal, the dilatation of the vessels in the lungs and on the surface, and the slowly-moving blood-current, being well calculated to produce such an effect. It is probable also that there is, immediately following division of the cord, diminished heat-production as well as increased heat-evolution. But, be this as it may, facts which it would be premature to bring forward at this time prove that the fall is directly connected with vaso-motor paralysis and the derangement of the circulation.

T. Tscheschin states that in a single experiment, instead of cutting the cord, he divided the medulla oblongata at its junction with the pons, and that the rise of temperature was in this case immediate, and not preceded by a fall. This fact has been entirely confirmed experimentally by Dr. Wood, who also found that, after galvanization of a sensitive nerve in an animal in which this section of the medulla had been practised, the same rise of blood-pressure as in the normal animal took place, showing that the section had been made above the vaso-motor centres.

Dr. Wood also found that the rise of temperature followed section of the medulla at the pons in animals in which the arterial pressure had been reduced to the minimum point by free venesection, as well as in those in which the arterial pressure was very great.

That the rise of temperature was in no wise connected with the respiration was proven by the fact that it occurred in all conditions of that function. Section of the medulla at the pons therefore produces a fever, which must be due to the cutting off of a repressive force,—i.e., there must be in the nervous system above this point a centre which controls the chemical movements of the body. This is in accord with well-known pathological facts, since free hemorrhage into the pons is followed by an enormous rise of temperature if the patient live a few hours. The fact that after hemorrhage in the neighborhood of the optic thalamus the temperature of the paralyzed limb is usually several degrees above that of the rest of the body for many months, indicates that this centre is in the neighborhood of that body.

If this centre exist, it is evident that irritation of a sensitive nerve after section at the border of the pons ought not to be followed by fall of temperature. In Dr. Wood's experiments the result was in agreement with this,—no fall of temperature under these circumstances following the most intense irritation of the largest trunk.

A knowledge of the existence of an inhibitory chemical centre throws a flood of light upon many hitherto inexplicable problems in clinical medicine. Thus, it has long been known that high bodily temperature may co-exist with any condition of the circulation, and as long as it was believed that the rapidity of the production of animal heat was directly dependent upon the activity of the blood-current, the co-existence of high fever and of lessened arterial action was a very strange phenomenon.

The mode of origin of an ordinary case of irritative fever now becomes evident. A boil, a pneu-

monic lung, or any local focus of irritation, sends its impulse up an afferent nerve to the inhibitory chemical centre, which is paralyzed, giving rise to the subsequent fever.

In another case the irritation may be of such a nature that the centre is excited to increased action, and the result will be, of course, universally lessened chemical movements, i.e., lessened heat-production and diminished bodily temperature.

This is completely analogous to what takes place in the case of the ordinary motor nervous system; the difference being that whilst in the former instance the result is a chill or a fever, in the latter it is a spasm or a paralysis.

Because, however, fever in some cases is produced by paralysis of the inhibitory nerve-centres, it by no means follows that it is always so; indeed, it is probable that there are other methods of its causation.

There may be an accelerator, as well as a depressor, of chemical activity in the body; and it is probable that there are certain poisons which elevate bodily temperature by a direct action on the tissues, since there are certainly substances, such as alcohol and nitrite of amyl, which lessen this chemical activity after the body has been separated from the upper nerve-centres by complete division of the cord, and which must therefore act directly upon the tissues or upon the blood.

## ORIGINAL COMMUNICATIONS.

### ON THE TREATMENT OF NEURALGIA BY THE CONSTANT CURRENT.

BY WHARTON SINKLER, M.D.,

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IN the number of the *Philadelphia Medical Times* for July 15, 1872, I reported, together with some other cases of neuralgia, that of Mrs. P., who had suffered from neuralgia of the fifth nerve, which was relieved by galvanism. I will now give the further history of the case, and add other instances of neuralgia which have been treated by the constant current:

Mrs. P. returned to the Infirmary for Nervous Diseases\* on August 26, 1872, with a renewal of her old malady. She states that she had experienced complete relief from pain from April until June 20. For several days she had been exposed greatly to wet, and had been occupied most of the day in a kitchen with a damp brick floor. On the day above mentioned she was suddenly seized, about 3 A.M., with an attack of pain in the left lower jaw, at the former seat of disease. Ever since then she has had one or more attacks of neuralgia each day. She had as many as six attacks, but occasionally a day would pass without any pain at all. For the past two weeks she has suffered more than ever, and has had almost constant pain in the jaw. Talking or eating will bring on an attack, but a draught of air against the face does not. She describes her suffering as being like a tearing apart of the jaw, and like running a knife along the bone. On the

\* Hereafter, in this article, I shall, for convenience, use this title instead of the longer one.



day of admission she had had a severe paroxysm of pain, beginning about 4 o'clock A.M., and lasting about twenty minutes. Talking, however, always causes some pain, as do jars to the body. The jostling of a wagon which conveyed her to the railroad-station produced much suffering.

On admission, she was weak, for she could not take sufficient food, on account of the inconvenience in mastication; and she looked anxious and worn, and was restless. The gum of the left lower jaw was tender and swollen; the tongue coated and pasty.

She was ordered to have liquid food, and to take the emulsion of cod-liver oil and lacto-phosphate of lime. The battery was directed to be applied twice daily. For the first three or four days there was very little relief to the pain, except that for a short time after each application of galvanism she had ease.

A current from ten cells was used, one pole being placed on the nape of the neck and the other on the painful points along the jaw.

Six days after admission, the following note was made: She is decidedly better; has had no pain at night, and only two or three attacks yesterday. This morning early she had several attacks, but since the application of the battery she has had none. Her appetite is now good.

On September 11 she returned home, taking with her a sixteen-cell battery, which she had been taught to use. Her whole appearance had changed; she looked well and was cheerful. There was only an occasional slight twinge of pain.

On January 3, 1873, she wrote to say that she was very well, "and had grown portly." She had experienced several attacks of neuralgia from exposure to cold, but each time it was promptly relieved by the battery.

In this case, as in all others, we used a current so mild that it was scarcely felt; and from the first application the pain was always removed for several hours. Immediately after the sitting the tenderness of the gum had disappeared, and firm pressure caused no pain.

The direction of the current made no difference: whether it was passed from behind forwards (direct) or from before backwards (inverse), the result was the same.

Another case, in many respects similar to the preceding, is the following:

*Case II.*—Mary W., æt. 72, widow, applied at my clinic August 23, 1872. Has always been perfectly healthy. In March, 1872, she was exposed for some time to a cold wind, and the same afternoon violent pain began in the right side of the face, which continued all night, but lessened in severity towards morning.

For three months she suffered from this pain night and day. At times it would be a dull aching, and then there would be sharp paroxysms of pain. The point of greatest suffering appeared to be in the gum just below the right ala of the nose. Speaking or eating would generally bring on a painful spasm of the right side of the face. She had previously lost all of her teeth except four lower molars, and she now had these extracted, in the hope of relieving the pain. There was no ease from it, however; in fact, she thinks it was made worse. Finally she got somewhat better, but five weeks ago the pain came on with renewed violence.

*Present state.*—The pain begins at the point of emergence of the right infra-orbital nerve, and extends back along the upper jaw to the ear, and into and behind it. The whole of the alveolar process of the right jaw is tender. The suffering is continuous, but there are frequent attacks of tic douloureux. An exacerbation comes

on in the afternoon, without any chilliness, and continues throughout the night. In the early morning there is slight febrile reaction, and the pain moderates. Occasionally making firm pressure on the gum relieves the pain.

The patient suffers from indigestion after eating, and has nausea, with acid eructations. Her appetite is poor and her bowels constipated.

She has had various treatment, such as blisters behind the ear, electro-magnetism, and many local applications, but without permanent relief.

She came to my office daily for galvanic treatment for two or three weeks with fair regularity, and always experienced relief during the application and for a short time afterwards. But, having to be exposed to draughts of air and the jolting of the cars on her way home, the pain would soon return. It was therefore determined on September 16 to admit her to the hospital, and to use the galvanism twice daily. She was also ordered a hypodermic injection of morphia, gr.  $\frac{1}{2}$ , twice daily. The latter, however, had to be discontinued in a couple of days, on account of the nausea it occasioned.

Two days after admission it was noted that she was better, the pain not so severe, and the paroxysms of tic not so frequent.

The improvement steadily progressed, and on October 15 she was discharged, entirely relieved. The tenderness of the jaw had disappeared.

Mrs. W. remained free from pain all of the winter and summer following her discharge from the hospital. During the winter of 1873 she had an attack of neuralgia lasting two or three months, but not so severe as it had been before. A few days ago, October 31, 1874, I saw her: she stated that she had been comfortable all summer, but was suffering at the time from some pain in the jaw, caused by exposure to a cold wind a few days previous. There had been no galvanic treatment for two years.

The following case is scarcely a fair test of the efficacy of galvanism in neuralgia, as the patient had only four sittings; but I give it, as he declared he was always made worse by the application, and I wish to report the failures as well as the successful results from the use of galvanism. However, in the case of Mr. R., given below, the first two or three applications increased his pain, so that it is possible that had G. L. continued longer under treatment he might have been relieved. Niemeyer\* tells us that "occasionally the pain is at first increased [by the application of galvanism], but that should not always induce us to stop the treatment."

*Case III.*—G. L., æt. 79, was sent to the Infirmary for Nervous Diseases by Dr. J. Ewing Mears, November 25, 1872. He first experienced an attack of neuralgia thirty-seven years ago. It came on three or four years after the death of his first wife, and was in the right jaw. It lasted twenty-three weeks, when he married again, and the pain left him.

While his second wife lived, twenty years, he had no neuralgia, but a few weeks after her death it returned again, and has not left him since. Ten years ago he had all of his teeth extracted, but it gave him no relief.

*Present state.*—The pain, which is constant, he experiences in both upper and lower jaw on the left side, in the branches of the inferior and posterior dental nerves, and occasionally in the infra- and supra-orbital nerves. In the latter it is very severe. The paroxysms of in-

\* Text-book of Practical Medicine, vol. ii. p. 289.

tense pain come on every few minutes during the whole day. During a paroxysm the side of the face is screwed up, and he is unable to speak. There is never pain in the left side of the face.

He was ordered to have a current from ten to fifteen Callaud cells passed from the back of the neck to the painful points. After the first three applications he stated that the pain had been increased by each treatment. After the fourth he thought he was not suffering so much, but there was still considerable pain, and the attacks of tic were frequent. He did not return again, as he had determined to apply for surgical aid in the division of the nerve.

In this case an interesting point is the apparent influence that the married state had on the neuralgia. The disease made its appearance soon after the death of his first wife, ceased after his second marriage, and again began, after an interval of twenty years, almost immediately after the death of the second wife.

*Case IV.*—A. S., æt. 40, widow, has three children. She is healthy, and there is no evidence of syphilitic disease.

For ten or eleven years she has suffered from attacks of intercostal neuralgia, which is accompanied by pain in the supra- and infra-orbital nerves. She has had three or four attacks in the year, each lasting about two weeks. They have been growing more severe, and the last attack began three months ago. When she applied at the Infirmary for Nervous Diseases, January 17, 1873, she complained of pain in the left supra- and infra-orbital nerves and in the intercostal nerves on the same side. There was some palpitation of the heart, and a faint apex-murmur was heard. The pain never ceased entirely, but there were exacerbations. At times she felt chilly, and occasionally while the pain was severe the left side of the face flushed. There was an eczematous eruption on each side of the nose and over the malar bone. This she asserted disappeared when she had no neuralgia. During the severe paroxysms of pain she perceived a disagreeable odor in the left nostril.

Ordered galvanism daily,—the sitting to be of five minutes' duration. During the passage of the current through the head, both cheeks flushed.

After two applications the pain was no better, but the eruption was fading. On January 31 she had been steadily improving, and she then had only a slight dull pain in the upper lip. The patient entirely recovered, and has not been heard from since.

*Case V.*—Ellen W., colored, æt. 23, single, came to Dr. Mitchell's clinic at the Infirmary for Nervous Diseases, February 14, 1873. Was perfectly healthy until six years ago, when she began to suffer from pain in a decayed tooth. This lasted for three months, when she had the tooth extracted, but without relief to the pain. The pain seemed to be confined to the right lower jaw.

When seen, she suffered from an attack of pain about every five minutes. During the paroxysm the angles of the mouth and eye are drawn towards the ear, and all the muscles of the right side of the face twitch. She can bring on an attack by rubbing the face violently. The pain and spasm of the face are simultaneous.

The patient locates the pain in the lower jaw, and it seems to be intense, for during a paroxysm she bites the cheek until it bleeds.

There is a remarkable deposit of pigment on the right cheek, which began about three months ago. It extends from the ear to the median line of the chin over a space about one and a half inches wide. The cheek looks as if soot had been rubbed on it. Just in advance of the ear the coloration is very dark, and also

at the angle of the mouth and under the lip. There is no other change in the nutrition of the skin of the face. The girl is apparently of pure African blood. Ordered galvanism daily.

On March 7 she was much better, and the pigmentation was less marked.

March 17, she stated that the attacks were less frequent, and not so severe. The discoloration was decidedly fading.

*Case VI.*—J. R. R., married, merchant, æt. 45, was sent to me by Dr. S. W. Mitchell for galvanic treatment in June, 1873. Twenty years ago had a chancre, but has never had constitutional symptoms. Has had considerable anxiety about his business, but at present there is no mental strain. Four and a half years ago he had an attack of inflammatory rheumatism, and about six months later he was seized suddenly with pain in the right lower jaw. The pain came like a blow, and lasted five minutes. He was free from it for four weeks, when it began again, and lasted two months, being so severe as to keep him in bed all of that time. The pain gradually wore out, and he was then free from it for six months. A third attack came, and lasted four months, and the interval was only one month.

About February 1, 1872, an attack of neuralgia began, and did not cease until June of the same year. He then had no pain until January, 1873, when it began and lasted until he was seen by Dr. M. Since January he had not been free from the pain for one day, and the suffering had been intense.

*Present state,* June 28, 1873.—There are three points at which the pain is most severe: the emergence of the right infra-orbital nerve, a spot about the middle of the lower jaw, and the right half of the lower lip. There is also pain in the temple and right eyeball. In the latter it began to-day for the first time.

At the three points above mentioned there is no tenderness except during a paroxysm, when they all become sensitive to the touch, both outside and inside. There is also tenderness of the whole cheek during an attack, but it disappears with the paroxysm. There is constant dull pain in the face, but every few minutes there is an attack of violent pain which is accompanied by contraction of the muscles of the right side of the face. The mouth is drawn, and the eye tightly closed. The attack can at times be stopped by sucking the tongue against the roof of the mouth, but this sometimes fails, and nothing else shortens a paroxysm. Pressure does not relieve it.

The attack is brought on by talk, excitement, and some movements of the tongue, but not by eating or brain-work. Sight of right eye is bad. Hearing of right ear has become imperfect. There is no numbness or insensibility in the face. He suffers from indigestion and constipation.

The suffering he describes as horrible, and to alleviate it he takes morphia, gr.  $\frac{1}{4}$ , hypodermically, four or five times daily, but this gives him very slight relief, and he gets but two or three hours of sleep at night. Since the neuralgia first began he has lost sixty pounds in weight, and he is miserable generally.

At the suggestion of Dr. Mitchell, I began to use the galvanism twice daily. The positive pole was placed at the back of the neck, and the negative pole on the painful spots successively.

The current used was so mild as to be scarcely perceptible. The first two or three applications seemed to be followed by an increase of pain, and the patient was greatly discouraged. But on the third day the paroxysms of pain were certainly shortened and lessened in severity during the passage of the current. On the morning of the fourth day he informed me that he had slept nine hours the night previous, a thing that had not occurred for many months.

From this time improvement steadily progressed. The attacks of pain became fewer and of short duration. His nights were comfortable, and he was able to reduce greatly the quantity of morphia he took.

On July 11, after having been under treatment just two weeks, he was obliged to return to his home in the West. He took with him, however, a sixteen-cell battery, and wrote on February 7, 1874, saying that his improvement had continued. He had not become entirely free from pain, but the paroxysms were infrequent and unaccompanied by spasm of the facial muscles. He still continued to use the battery, and felt confident that he would eventually obtain entire relief.

This case is a remarkable illustration of the benefit that may be derived from galvanism in neuralgia. The pain had been atrocious, and everything had been tried for its relief without success; even division of the inferior dental nerve had been resorted to, and all the teeth on that side had been extracted.

The direction of the current made a decided difference. When the negative pole was over the foci of pain, it gave ease or checked a paroxysm; but an attack of pain was brought on by the inverse current; a strong current also increased the pain.

This patient never abandoned the use of morphia entirely, which, in the opinion of Dr. Mitchell, is essential to the success of galvanism in the treatment of such cases.

*Case VII.*—The notes of the following case have been kindly furnished me by Dr. Mitchell. Mrs. D., æt. 52. Neuralgia began in left side of jaw and the tongue in the winter of 1870. In the spring following she had eight teeth extracted in the lower jaw, and had ease until the next winter, when the pain returned suddenly. In the next summer she lost it, but in the fall it again appeared, and has not left her since.

Condition, April 24, 1874: The pain is in the lower jaw and left side of the tongue. At times, if exposed to cold, it is in the temple and just in front of the left ear. The pain is continuous, day and night, and is also paroxysmal. Talking and eating bring it on, and so do sweets in the mouth; salt and vinegar will also cause an attack of pain, but less soon. She has nausea at times, but no dyspepsia. Bowels constipated. The tongue feels as if scalded. When she is in pain the lips and gums are tender, but not the tongue. Eye-ground normal. An attack of pain can be checked by pressure in front of the ear. This fact—*i.e.*, that pressure at a remote point will sometimes relieve the pain in a nerve—has often been pointed out by Dr. M. in patients at the hospital.

In Cases I. and II. pressure over the painful points would always give a certain amount of relief.

Galvanism was applied to the painful points in Mrs. D.'s face on alternate days for two months, but without the slightest benefit. During this time arsenic was administered, and various other remedies were employed.

*Case VIII.*—J. W. B., admitted to the Infirmary for Nervous Diseases, January 26, 1874. He was 33 years of age, and married. Thirteen years ago he contracted a chancre, which was followed by secondary symptoms confined to the throat. Except an attack of intermittent fever, he has been perfectly healthy since childhood.

Four years ago, while passing his hand over the side of the face, he felt as if a thorn was sticking in the flesh at the angle of the nose. In about nine months

the pain began to run down to the angle of the mouth and back to the ear. The sensation about the ear was more of numbness than of pain. Matters continued thus, with intervals of relief for about half the time, until about four months ago, when the pain began over the right brow. The pain has been of a "flashing and darting" character, and has been worse lately.

All of the teeth in the upper jaw have been extracted, and some of the lower. No amount of pressure on the gum causes pain. There is a pustular eruption confined to the right side of the face. The eye-ground is normal, and there is no defect in hearing. The urine is normal.

The patient was ordered galvanism twice daily, and cod-liver oil.

The treatment was persevered in for two or three weeks, with relief to the pain in the supra-orbital nerve, but in the inferior dental the suffering was as great as ever. It was therefore determined to excise a piece of the inferior dental nerve. The operation was performed by Dr. T. G. Morton, one of the surgeons to the hospital, and, although there was no immediate relief to the pain, in time it was greatly mitigated. In a letter from him at his home in Sunbury, Pa., dated October 22, 1874, he says that he fears when cold weather returns the pain will be as bad as ever, for during a cold spell, a few days before he wrote, he had suffered considerably in the lower jaw. There had been no return of pain whatever in the supra-orbital. This is worthy of remark, for it was in this nerve that the pain had yielded to the galvanism.

*Case IX.*—O. R., æt. 35, was sent to me by Dr. Mitchell, Nov. 22, 1872. He had suffered from left supra-orbital neuralgia for several months, induced, he thought, by exposure to draughts of air. There was an eruption over the left brow, partly papular and partly pustular. When the pain was worst the eruption was most abundant. I used a galvanic current daily, placing the negative pole over the supra-orbital nerve, and the positive over one of the cervical vertebræ. Fowler's solution was also administered. Under this treatment the pain was entirely relieved, and, what is striking, the eruption disappeared with the neuralgia.

*Case X. Sciatica.*—Catherine A., æt. 33, married, was sent to me at the Infirmary for Nervous Diseases by Dr. W. H. H. Githens, with the following history. She had always been a strong, healthy woman, and had never had rheumatism. On June 23, Dr. G. delivered her, by the forceps, of a large child. There was considerable hemorrhage, but that was controlled, and she did well until the second day, when she was seized with violent pain in the right hip and posterior aspect of thigh. She had become chilled from exposure on the day previous, and ascribed her pain to this cause. The pain continued with great severity, shooting down the course of the sciatic as far as the knee, notwithstanding that anodyne applications were made freely.

On admission, she complains of pain, beginning in the right hip, and extending down the back of the leg to the knee. She is unable to bear any weight on the right leg, as it increases the pain, and, moreover, the limb is actually weakened. She is anæmic and weak, and her appetite is poor. Her bowels have been constipated, but she has taken medicine to relieve them. The lochia still persist. She sleeps badly and looks haggard. The pain usually grows worse in the afternoon and continues severe during the night; in the morning she has some ease. Pressure over the sciatic at any point causes pain.

She was placed in bed, ordered good food, and elix. ferri, quin. et strychn., f3i three times a day. The constant current was applied to the leg once a day. The positive pole was placed at the lower dorsal region of the spine, and the negative at various points over the



sciatic from its emergence to the popliteal space. The current from twelve to sixteen cells of a Stohrer battery was used, and the application lasted from ten to fifteen minutes.

The pain was speedily mitigated by these means, and the second night after admission she slept well. In two weeks she was allowed to get up, and could walk a few steps without much pain. She was kept quiet for some time longer, and in a few weeks was entirely well.

In sciatica, rest in bed is an important element in the treatment. In several cases treated at the hospital as out-patients it required a much longer time to effect a cure than in those patients whom we are able to keep at rest in the recumbent posture.

In addition to the cases above detailed, I could give several others; but the notes of them have been imperfect, or there has been other treatment used in addition to the electricity, which may have influenced the result.

Of these ten cases, five were completely successful, two were failures, and the remaining three were in a great measure relieved. Considering the severity of the neuralgia in every instance, the result is better, I think, than could be looked for under any other plan of treatment.

The effect of galvanism in relieving pain is very striking. Severe suffering often ceases after a few minutes' application of the current. Besides its influence on true neuralgias, many other forms of pain are cured by it; for instance, I have seen violent pain in the shoulder, in a case of hemiplegia, completely dissipated by the use of the current.

In Case V., the remarkable pigmentation of the skin at the seat of the neuralgia became greatly lessened under treatment. Dr. Anstie\* refers to this action of galvanism, and states that he has seen "the constant current, in relieving facial neuralgia, not unfrequently disperse, almost instantaneously, the brown skin-pigment that has collected in the painful region,—i.e., near the orbit."

Electricity in the treatment of neuralgias is by no means a new agent, but it is only in the past few years that the constant current has been employed to any extent. The induced current has been used for many years, and with good results in a few cases, but often it failed entirely or aggravated the disease it was intended to cure. In the British journals a number of cases of neuralgia treated by galvanism have been reported, but in this country few if any have found their way into the medical periodicals; at any rate, I have not been able to find them, and it has therefore seemed to me well that I should detail my experience in this class of cases.

As to the method of applying galvanism, I have derived best effects from the current of a battery in which there is but little chemical action. A battery of Siemens-Halske or Callaud cells gives a current best suited for the treatment of neuralgia, but it is so bulky that it can be used only in the office of the physician. If a patient has to be treated at his own house, then we must use a portable arrangement of Smee or Bunsen cells. Some form of Stohrer's battery answers very well, but it is more of a "quan-

tity" battery than the Siemens-Halske, and causes more pain for the amount of electricity which is obtained.†

The current used should be mild,—from ten to fifteen "Callaud" or six to ten Smee cells. Niemeyer‡ speaks of active changes being produced in the skin, such as erythema and even blisters, at the points of application of the electrodes; but it is quite unnecessary that this should occur; in fact, the current need not be painful. Dr. Anstie states clearly that "only such a current is to be employed as produces a slight tingling and (on prolonged application) a slight reddening of the skin at the negative electrode."

The length of the sitting should not exceed ten or fifteen minutes; but it is of the greatest importance that the application should be repeated daily, and in many cases twice or three times a day is not too often to use the battery.

I have found that in most instances it makes but little difference whether the current be direct or inverse, and this is in accordance with the views of Dr. Anstie (*loc. cit.*), and also of Dr. Russell Reynolds.§ Eulenburg|| and Althaus¶ say that it is the positive pole which should be placed over the seat of disease, as the negative is too exciting; and Niemeyer, on the other hand, advises that in all instances the negative pole should be over the painful point. The truth seems to be that in regard to the direction of the current it varies in different individuals. In Case VI. the inverse current always increased the pain. This was frequently tested, and always with the same result.

In other cases the direct current produced pain, or it made no difference which current was used. This would seem to indicate that there was more than one variety of neuralgia. I shall not go into a discussion of the subject at this time, my object in this paper being only to point out to the profession the value of galvanism in relieving neuralgia,—a disease so terrible, and at the same time so difficult of cure. The current should always be uninterrupted. Shocks or breaks in the current ought to be carefully avoided.

Dr. Weir Mitchell has obliged me by adding the following notes:

"Your paper on the usefulness of continuous currents in neuralgia tempts me to add some information as to the use of galvanism in cases of what I might call the neuralgic constitution,—a subject upon which, despite Anstie's admirable book, I have seen nothing said, there or elsewhere.

"This is what I mean by the neuralgic constitution. I know a few persons who are every now and

† When I speak of a "quantity battery," I mean one in which there is either a large surface of the elements or much chemical action, producing an amount of electricity capable of causing chemical decomposition, e.g., heating a wire red-hot. "Quantity is in proportion to the size of the elements; intensity is in proportion to their number" (Duchenne).

In a lecture on electricity in the number of this journal for Jan. 2, 1875, Dr. H. C. Wood, referring to "quantity" and "intensity," says (quoting Jenkin, "Electricity and Magnetism"), "these terms are remnants of an erroneous theory," and advocates the view of the same author that all galvanic currents have but one quality,—namely, strength, which depends on the internal resistance of the battery. All electricians, however, have not yet accepted this view.

‡ Op. cit.

§ Clinical Uses of Electricity, p. 10.

¶ Quoted by Anstie, op. cit.

|| A Treatise on Medical Electricity.

\* Neuralgia and its Counterfeits, p. 227.

then liable to attacks of neuralgia,—most often in the fifth nerve, sometimes in the arms, and more rarely elsewhere. I know of others who are liable to violent onslaughts of pain confined to a limited space, but which may come in almost any part of the body, but usually in the limbs. In two such cases, which were clearly not pre-ataxic neuralgia, the point of pain exhibited twitchings of near muscles, and also purpurial spots like bruise-marks. (See Report Col. Phys., 1872.)

"Some persons, and the cases are rare, exhibit only a remarkable tendency to neuralgia of the fifth nerve, and of this alone. The pain comes on after exposure to cold in winter, may attack any branch of the nerve, and fades out in summer. It does not seem, like the other forms, to be due to depressing causes, or to come, as they do mostly, in the spring. The most notable case of facial susceptibility to pain I have ever seen has been some time since dismissed cured. This lady, æt. 45, lives in the country, and four years ago was exposed to a severe cold, which froze the nose, ears, and cheeks. They were well and carefully treated, but ever since, a few minutes' exposure to cold, whether dry or moist, inevitably brought on pain in some one of the exit-points of the branches of the fifth nerve. The attack after this followed the history of facial neuralgia. At the beginning there was often a slight chill, and, after a few hours, intense flush and relief. I treated her solely by galvanic currents applied to the exit-points, and through to the back of the neck. A week's sittings brought ease. Two months' treatment enabled her to face any cold with pleasure. The cure was absolutely perfect.

"Cases of general neuralgia—that is, of pain striking this or that nerve, and rarely of long duration—are sometimes due solely to a state of excited sensorium, arising from conditions of stomach, but even in these the far-distant pathogenesis lies usually in blood-losses, and the cases, as might be expected, are commonly females. Rest in bed for a month, with attention to the state of the stomach, injections of cod-liver oil, and systematic feeding, bring these cases into a condition in which it becomes worth while to resort to galvanism. Then I determine the localities most often infested by pain, and treat these points. I cannot say that I know how the currents do good, but in all probability they act not locally alone, but also on the related groups of sensorial ganglia in the centres. At all events, they surely serve some useful purpose.

"In all neuralgias we meet with cases rebellious to galvanism, and then I am disposed to suspect that there is some grave organic cause of pain, and to think nerve-section the proper remedy. The obstinacy of traumatic neuralgias is some support to this opinion, and neuralgias of stumps, for example, are usually amenable to but one remedy,—the knife. I may add that when the case has been well studied, and the point of section correctly chosen, section is usually a success; but the surgeons rarely pay enough of attention to the physiological conditions which must be borne in mind if we expect to attain good results."

## NOTES OF HOSPITAL PRACTICE.

### PENNSYLVANIA HOSPITAL.

SERVICE OF DR. T. G. MORTON.

Reported by J. J. KIRKBRIDE, M.D.

#### PHOSPHORUS-NECROSIS OF UPPER MAXILLA—EXCISION.

H. M., aged 29, was admitted, October 28, 1874, with necrosis of the upper jaw. He was a match-dipper by profession, having been so employed since eleven years of age. His health has been moderately good until one year ago, when he suffered from a cough, with considerable debility, followed soon afterwards by toothache in the right upper jaw. Three months since, he had a tooth extracted which was much decayed, the dentist, according to his account, tearing away at the time a portion of the gum. During the next month three more teeth were removed at various intervals. Marked relief always followed these extractions, the patient returning to work the next day.

On admission, the right side of the face was much swollen and sensitive; all the teeth on that side were loose, up to the middle incisor, the gums being very boggy, swollen, painful, and perforated in many places, through which pus exuded in large quantities, while along the jaw dead bone was readily felt. The man had a full beard and moustache of considerable length, thus disproving the assertion that this appendage is a protection against the fumes of phosphorus. The patient was very anæmic, with a temperature of 97°. Lacto-phosphate of lime, and cod-liver oil, were ordered.

At the clinic, October 31, Dr. Morton removed all the necrosed portion of the jaw, the loosened teeth being first extracted; an incision was then made along the upper portion of the gum and roof of the mouth on the right side, and the bone separated front and back with the cutting-forceps.

But little hemorrhage followed.

Dr. Morton exhibited to the class a patient who had suffered from severe phosphorus-necrosis some years ago, contracted in the same manufactory as the former case; Dr. Hunt, in 1866, removed rather more than the entire half of the lower maxillary on the right side without making an external incision.

The supplemental jaw, which in 1867 was quite as large as the normal one, has since undergone great absorption, being one-third less than formerly; otherwise the patient has enjoyed perfect health, and has been ever since engaged in his former business as "match-dipper."

#### VESICAL CALCULUS OF UNUSUAL SIZE AND WEIGHT.

Dr. Morton exhibited a specimen of vesical calculus which had been removed after death by Dr. Elwell, of Vincenttown, N.J., from the bladder of a man, aged 65, who had been suffering from vesical irritation and all the symptoms of stone for twenty years previous to his death. The patient would never consent to any examination of his bladder. Death took place from exhaustion. The stone resembled a medium-sized white potato, and is of the phosphatic variety. It measures eight and three-fourths inches in its longest dimensions by six and a quarter in circumference, and weighed, immediately after its removal from the bladder, seven ounces four hundred and twenty grains.

PHOSPHORUS HYPODERMICALLY. — In Dr. H. C. Wood's wards in the Philadelphia Hospital phosphorus has been given hypodermically in a number of cases; two to three drops of the oleum phosphoratum (Prus. Pharm.) being given in eight to ten drops of glycerin. No serious local irritation was produced in any instance.



## TRANSLATIONS.

**HYSTERICAL ATTACK IN A MAN CURED BY COMPRESSION OF THE TESTICLES.**—Dr. P. Foet relates the following case in a letter addressed to the editor of the *Gazette Hebdomadaire*: Some days previously he had been called to attend a certain M. Chartres, who, it was said, was suffering from an attack of apoplexy. Arriving at the patient's bedside, he found him lying on his back, the head turned to the left, the face of a natural color, the eyelids partly closed, the mouth open, but no frothing. The respiration was slightly accelerated and noisy. There was tympanitis. The patient appeared unconscious, and did not reply to questions. From time to time he carried his left hand to his throat, as if to rid himself of something oppressive. The right side was not paralyzed; there were no reflex movements. Sensibility was absent over the whole body. The pulse was small and rather quick.

On attempting to ascertain whether the pupil was contracted, the patient's face became flushed, the eyelids trembled continuously, the teeth chattered, the neck became swollen, and the arms and legs were seized with such violent convulsive movements that three strong men were required to hold him. The respiration became still more rapid, even anxious.

At this moment Dr. Foet compressed the patient's testicles firmly, and in less than a minute the attack had completely disappeared. There only remained a slight stupor, lasting for the space of about an hour. Dr. F. learned afterwards that the man was quite irritable; that on the day previous he had been very "contrary," and that all that day he had experienced a fixed pain in the right temple, which he had compared to that which would be caused by a nail being driven into the head. He had been subject to these pains, as well as to occasional general attacks of pain in various parts of the body. Some moments previous to his attack, he had felt great lassitude, with incessant yawning, and had lain down, thinking that they would disappear. He had had such attacks many times before, but had never lost consciousness. He remembered the events of the day, but vaguely, and replied to a question put to him by Dr. F. when, to the bystanders, he seemed entirely unconscious. Titillation of the palate and half-arches showed complete insensibility.

An antispasmodic was prescribed, and the next day the patient returned to his work. At the conclusion of his letter Dr. Foet asks the question whether the disappearance of the attack was due to the compression of the testicles in itself, or was not rather due simply to the pain which was thus caused. He inclines to the latter hypothesis.—*Gaz. Heb.*, December 11, 1874. X.

**CHANGES IN THE RADIAL NERVE RESULTING FROM LEAD-POISONING.**—The radial nerve of a patient who had died suddenly while under the influence of lead-palsy showed a normal appearance and volume, and, after isolation, normal medullated fibres. No trace of fatty degeneration.

After hardening in bichromate of potassium, sections stained with carmine showed on microscopic examination, instead of the usual yellow medullated filaments, which were decidedly diminished in number, certain faintly-dotted red spaces. The latter, composed of small circles arranged in groups, showed with higher powers sharp contours, and were evidently cross-sections of the filaments of which the bundle was composed.

In the centre of these circles certain dark-red points could be seen, which were probably sections of axis-cylinders, so that the sections were such as are found, for instance, in the sympathetic, which Remak, Nau-

mann, and Eichorst have shown to be regenerating nerve-filaments.

As in the cases examined by these observers, so also in the present case the trunk of the nerve showed more of these filaments than the branches.

Paralysis of the radialis by lead-poisoning would thus appear as primarily an affection of the nerve-trunk. The spinal cord and the proximal fibres of the cervical plexus were found healthy.—*C. Westphal. Centralblatt*, No. 56; from *Archiv für Psychiatrie*, etc., 1874, iv. 767, 783. X.

## THERAPEUTIC NOTES.

**TREATMENT OF SACCHARINE DIABETES BY PHENIC ACID** (Dr. Heanjo: *Gaz. Med. de Bahia*, July, 1874).

—A celebrated professor of music of Bahia, Sr. Bispo da Igreja, fourteen years ago, while riding along a country road near that place, was struck upon the back by a falling tree, and was thrown from the saddle violently to the ground. After much suffering, and a long and careful treatment, he recovered his health so as to be able to follow his profession. Ten years after this, he began to feel ill, and placed himself under treatment. He had intense thirst, a constant desire to urinate, loss of appetite, a dry, rough skin, general debility, and total inability to perform mental work. Trommer's test repeatedly showed the presence of glucose in large quantities in the urine. For four years he was subjected to salt baths daily, and an appropriate and rational treatment, without much amelioration of his condition.

Phenic acid, as recommended by Ebstein and Müller, was then prescribed according to the following formula:

R Acidi phenici cryst., gr. xvss;

Aq. menthæ pip.,

Aq. destillatæ, aa f̄i.—M.

Sig.—Take one-sixth part morning and evening.

The patient was permitted to select his own diet, but was cautioned against excess. In three days the polyuria and polydipsia had notably diminished, along with the amount of sugar in the urine, and the bodily and mental tone were much improved. By the continued use of the medicine, the professor gradually lost all his afflictions and began to grow fat. The last to vanish was the sugar in the urine. At the end of three months it could no longer be detected by the test. The patient still continues to take the medicine, though there is probably no longer any need to do so. He is apparently in perfect health, and is engaged in the active pursuit of his profession. W. H. WINSLOW.

**CHLORAL IN SEA-SICKNESS.**—Dr. Giralde (*Jour. de Thérap.*) has found that chloral is very efficient. Before crossing from Calais to Dover in rough weather he had a draught made up composed of chloral, forty-five grains; distilled water, one and a half fluidounces; gooseberry syrup, two fluidounces; French essence of peppermint, two drops. He took half of the draught as the vessel left the harbor, and arrived at Dover without having suffered in the least from sea-sickness, whilst his companions were in the usual condition of prostrate misery.

**POWDER FOR CORYZA.**—

R Bismuth. subnitrat., ʒii;

Pulv. benzoini, ʒi;

Morphiæ muriat., gr. i.—M.

Div. in chart. No. ii.

One to be used as snuff in the course of the day. The insufflation of tincture of iodine and even of ammonia may be found useful in certain cases; but the latter should be used with caution, for fear of provoking epistaxis.

# PHILADELPHIA MEDICAL TIMES.

A WEEKLY JOURNAL OF  
MEDICAL AND SURGICAL SCIENCE.

*The Philadelphia Medical Times is an independent journal, devoted to no ends or interests whatever but those common to all who cultivate the science of medicine. Its columns are open to all those who wish to express their views on any subject coming within its legitimate sphere.*

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## EDITORIAL.

### BLUE LIGHT IN THERAPEUTICS.

SOME few years ago, General Pleasanton, of this city, created quite a stir in circles that should have judged more critically, by his experiments upon the effect of keeping animals and vegetables under blue glass. He asserted that blue light has a most marvellous effect upon all forms of life, and his views were received with a good deal of favor. They even found practical advocates in our profession, so that blue glass and blue paper made their way into hospital wards, and very great therapeutic value was even attached to them by some physicians. Recently our attention has been called to the subject by an elaborate and laudatory paper on the medical use of blue light, in one of the homœopathic journals.

It is a very curious circumstance that all the writers and experimenters believe that there is an active virtue in blue light, and that a person under blue glass gets more of this blue virtue than does a person upon whom nature's sun shines unobstructed. A moment's consideration ought, however, to teach the veriest tyro in science that the blue glass does not add anything to the sun's ray, but only takes away from it. The light beneath the blue glass is blue not because the glass has altered or colored it, but because the glass has obstructed the passage of the other rays of the spectrum, and has allowed the blue to pass

alone. A man in the hospital ward gets the same amount of blue light on him whether colored glass be there or not. To attribute active therapeutic powers to the colored light is therefore, scientifically speaking, foolishness.

We have also failed as yet to discover any good grounds for believing that light as made by the Creator contains anything deleterious to life, or that it can be improved artificially. The gentleman previously alluded to did seemingly show that the pigs raised under blue glass were finer than those of the same litter who had shared the common lot of their brethren, and did certainly raise very large crops of grapes in greenhouses into the roof of which blue glass had been placed. As we are under obligations to him for great courtesy, we are sorry that scientific candor forces us to state, after careful examination of his experimental procedures, that in them he violated the primary canons of scientific experimentation, and that his results are really of no value.

We saw the two sties, with their pigs. The "blue sty" was large and clean, airy and dry, with a few blue panes here and there in its roof; the other sty was exposed, dirty, and wet. The pigs in the "blue sty" got practically as much daylight as did the others, only the magic blue light once in a while crossed their pathways. The result, to our mind, simply showed that pigs, like their ilk even among mortals, are amenable to the beneficence of hygiene.

It is hardly worth while to say a word about the grapes, since there were no comparative results. A magnificently-situated grapery, under-drained in the most expensive and scientific manner, with a deep, rich compost-bed, in which vines of the most approved character were planted and tended by a skilful gardener, of course yielded large crops of grapes.

It was four or five years ago that we made the inspection, but, if our memory be correct, the blue lights constituted only one-third or less of the roof, so that the grape-vines were not deprived of other light.

Of course, we are open to conviction upon any scientific subject, but, if there be any truth at all in the doctrine of evolution, life must have adapted itself in the course of the last — millions of years to light as it is, and experiments to disprove this, in order to be convincing, must be conducted by those who appreciate the difficulties and necessities of scientific experimentation: certainly the burden of proof lies very heavily upon any one who attempts to improve sunlight.

## CONCOURS.

THE Faculty of Rush Medical College, Chicago, has just held a concours to select a lecturer on obstetrics in the spring course. Ten gentlemen applied, and were allowed a week to prepare a lecture on assigned subjects. Four were then selected out of the ten candidates, according to the merit of the lectures, and each of these four subsequently drew a subject out of a hat and proceeded to lecture forthwith. The successful competitor was Dr. E. W. Sawyer. We have nothing but praise for any attempt to do away with the "grandmother system" of selecting medical professors, but we cannot refrain from calling attention to the fact that the "concours" does not take into sufficient account originality. The world may lose the good work the original medical thinker would have done if placed in a professorial chair, simply because his "gift of the gab" is not equal to that of his more fluent but more superficial and less original competitor.

A true system of choice would take into consideration the highest ability, that of doing original work, as well as the lower ability, that of speaking well. It seems to us that a better plan than the ordinary "concours" would be for the candidates to lay before their judges the work they have accomplished, and then proceed to lecture; the final judgment being made after a careful consideration of the whole field.

## PROCEEDINGS OF SOCIETIES.

## PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THE PRESIDENT, DR. WILLIAM PEPPER, in the chair.

THURSDAY, DEC. 10, 1874.

**REPORT of Committee on Dr. Hodge's Specimen.**—The committee appointed to examine the specimen presented by Dr. Hodge at the meeting of the Pathological Society held September 23, 1874, report that they have carefully examined the specimen, and find that the tumor was an ovarian tumor attached to the broad ligament by inflammatory adhesions.

H. LENOX HODGE,  
J. EWING MEARS,  
JOHN S. PARRY.

1. *Excision of the Knee.*
2. *Cystic Disease of the Submaxillary Gland.*
3. *Cyst of the Temporal Region.*
4. *Supernumerary Toe.*

Dr. JOHN ASHHURST, Jr., presented the specimens, with the following descriptions: The parts exhibited were the condyles of the femur, the articulating surface of the tibia, the patella, and the remains of the semilunar cartilages. The specimens were exhibited in their recent state (the operation having been performed that morning), as furnishing an excellent illustration of the gelatinoid change which Brodie had described under the name of pulpy, and Swain under that of gelatiniform de-

generation. The affection was called by Barwell *strumous*, and by Athol Johnstone *scrofulous synovitis*; but Dr. A. preferred the name *gelatinous arthritis*, because, while originating in the soft tissues, the disease, if not interfered with, ultimately involved all the structures of the joint. The patient from whom the specimens on the table were derived was a boy about five years of age, who had suffered from the disease nearly two years.

Dr. JAMES TYSON inquired of Dr. Ashhurst whether the "gelatiniform degeneration" here referred to was not, more precisely speaking, an example of the so-called *mucoous degeneration* of the pathologists, of which the essential feature was a conversion of the intercellular substance into a transparent mucin-containing material, while the cells themselves remained intact. The seat of the changes in the specimen presented would seem to be that especially selected for this degeneration, *i.e.*, the cartilages and bones.

Dr. ASHHURST replied that, so far as he knew, no one had investigated the minute anatomy of this disease except Mr. Barwell, who regarded the condition as essentially the same as the granulation-change met with in ordinary inflammation. The terms *gelatiniform*, *pulpy*, etc., etc., Dr. A. thought referred to the naked-eye appearances of the parts, rather than to their microscopic characters.

2. *Cystic disease of the submaxillary gland.*—The specimen consisted of a much hypertrophied submaxillary gland, exhibiting at its posterior part a large cyst which contained a whitish mucoid substance. The gland had been removed by excision twelve days previously, from a lad thirteen years old, who had been suffering from the affection between four and five months. Excision rather than simple incision was employed, as being a more rapid as well as more radical method of treatment, and one the better results of which justified the slightly greater risks by which it was attended. The operation had presented no particular difficulty, the facial artery being the only large vessel which required division, and the patient was since convalescent.

3. *Cyst of the temporal region.*—This cyst, which belonged to the *cutaneous proliferous* or so-called *sebaceous* variety, had unusually thick walls, and was readily removed, by enucleation, from a boy about ten years old.

4. *Supernumerary toe.*—This was removed from an infant of eight months. The deformity affected the left foot only, the superfluous digit growing inwards from near the base of the great toe.

*Keratosis Obturans* (Wreden).

Dr. CHARLES H. BURNETT presented the specimen, and read the following paper:

"I desire to call the attention of the Society to a specimen of obstructive disease of the external ear, recently described by Wreden, of St. Petersburg, and named by him *keratosis obturans*, in contradistinction to *ceruminosis obturans*, with which it has often been confounded, though differing from it very widely.

"The latter disease, as its name implies, consists of a mass of inspissated cerumen, but it is easily removed by appropriate syringing, and the ceruminous nature of the mass removed from the ear is recognized, among other features, by the rapidity with which it dissolves in water.

"*Keratosis obturans*, however, recently tabulated by Wreden as a separate and special disease of the ear, is a collection of epithelial laminae, derived from the cutis of the external auditory meatus, of gradual accretion, causing great deafness, and very obstinate in its resistance to removal.

"Every one who has had any extended experience in removing impacted masses, usually of cerumen, from the ear, must have remarked the fact that now and then



a mass is encountered requiring a piecemeal removal by the patient use of syringe and forceps, and which, after lying a long time in water, will not dissolve as ordinary wax of the ear does. It is such exceptional masses that Wreden has investigated, and, finding that their composition is not of cerumen but of the horny elements of the cutis, he has proposed for them the name of *keratosis obturans*.

"These obstructive bodies are not confined to any age or sex.

"Wreden states that his attention was first specially called to their peculiar nature by meeting a very adherent one in the ear of a little girl. In this case he was so fully impressed with the suspicion that he was dealing with a wad of soft white paper maliciously placed in the ear by the young patient, that he accused her of the deed, and, although she denied it, he was not convinced of the truth of her denial until the microscope revealed the fact that the mass he had with great difficulty removed was composed of epithelial elements arranged in peculiar laminae.

"Upon inspection of the ear containing such a mass as I have described, a thin layer of ordinary cerumen may be seen covering the outer surface of the plug, and thus one may gain the impression that the case is one of ordinary ceruminous obturans or ceruminous impaction. But continued syringing, by its barren results in such cases, soon convinces the operator that the obstruction is no ordinary one.

"The case furnishing the specimen I exhibit this evening came under my care last July. The patient was a gentleman sixty years of age, suffering with intense deafness and tinnitus in the occluded ear, and, owing to the fact that the meatus was rendered abnormally tortuous by two large exostoses of the meatus, one above, the other below, it required patient and careful picking and syringing for a half-hour for eight days before all the foreign body was removed, with, at last, a restitution to normal hearing. From statements of the patient I inferred that similar though smaller and less annoying plugs had been removed from the ear, though he could not give any idea as to the length of time the present one had been forming, as the onset of deafness was almost instantaneous.

"Usually, in these cases of keratosis in the external ear, no part of the mass comes away as a coherent plug, but the mass must be broken down and removed in small pieces. In this case, however, I was fortunate enough, by the use of a solution of bicarbonate of soda (gr. x ad f3j) in glycerin and water, to remove about half of the mass as a whole. When it was first washed out it was perfectly white, and resembled a set of layers of wet tissue-paper slightly separated from each other by the buoyant effect of the water. When pressed upon it felt quite as hard as it does now, but by this time the color of the plug has changed from white to light brown.

"Any one pressing upon this mass will perceive how readily its peculiar resiliency distinguishes it from the ordinary cerumen-plug, with its soft and greasy consistence.

"As insolubility of the removed mass is one of the distinctive features of this peculiar aural disease, I have allowed this mass to remain constantly in water and glycerin since its removal from the ear last July, and the result of the experiment may be seen at this time.

"Its resistance to solution and its leathery consistence will readily account for the difficulty one experiences in removing it from the ear.

"Wreden has not suggested any cause for the occurrence of this disease of the ear, and, although among the laminae composing these masses he has sometimes found vegetable spores, he is not inclined to ascribe the origin of the mass to irritative presence of a fungus in the auditory canal.

"In cases where a tendency to recur is fully established, care in preventing an accumulation of the laminae will greatly simplify the malady as well as the treatment."

*Cancer of the Cæcum, and Intussusception into Large Intestine—Intramural Fibroid Tumor of the Uterus—Cystic Ovaries.*

Dr. WHARTON SINKLER presented the specimens, for Drs. J. J. BLACK and STEWART, of Newcastle, Delaware. They were derived from a lady who was in her sixty-third year, and previous to September, 1873, was remarkable for her good digestive powers. After that time she was subject to flatulence, with severe attacks of pain in the abdomen, which increased in frequency as her strength failed. For three months before the close of life, vomiting was a prominent symptom, being induced by every attempt to take nourishment, and for the last ten days she was kept alive by the repeated exhibition of brandy, a large portion of which was rejected.

She died October 18, 1874.

The post-mortem examination was made the following day by Dr. Black, in presence of Drs. Porter and Bush, of Wilmington, and Dr. Stewart, of Newcastle.

The specimen of bowel included the large intestine from the commencement of the colon. Dr. Black wrote that the first part of the transverse colon appeared to have "swallowed" the caput coli, the appendix vermiformis and commencement of the ileum being also carried in, while the cæcum appeared to be a mass of cancer. On opening the first part of the transverse colon, this mass seemed to lie within it, mucous surface to mucous surface, and peritoneal to peritoneal.

The mesentery and omentum were full of shot-like bodies, and the duodenum up to the pylorus was very much thickened, and contained the same deposit almost blocking it.

The kidneys were slightly granular; the liver of natural size,—smooth, but hardened in texture, of light-brown color, and somewhat fatty. The uterus contained the intra-mural uterine fibroid forwarded, which was the seat of a calcareous degeneration. The right ovary contained a cyst as large as an orange, filled with fluid; the left, a similar smaller cyst.

The specimens were referred to the Committee on Morbid Growths.

*Clot in Left Corpus Striatum.*

Dr. WILLIAM DARRACH presented the specimen, derived from a male patient aged 53 years, height five feet eight inches, stout, of sanguineous temperament and of intemperate habits, but always able to walk.

On November 28 he had an attack of apoplexy, which produced paralysis of the right arm; he was unconscious, breathed heavily, and cold perspiration stood over the face; his nose was cold, and back of the head hot; pupils contracted; no strabismus. Pulse very feeble. Ten ounces of blood were taken by cups from the occipital region. The pulse came up after the bleeding, and consciousness was restored several hours after. The following morning he was able to swallow, and talked rationally, and the right arm was raised to his head.

November 30, 4 P.M.—Unconsciousness again returned, with all the other symptoms. Cups were again resorted to, and, after much suction, the blood flowed. Eight ounces were again taken. The following morning the consciousness returned, and he was enabled to take brandy and beef-tea as before.

December 1, P.M.—The congestion again returned, with the former symptoms. He was again cupped, with great difficulty, as the blood was very thick, but he was again relieved.

On December 2, A.M., he was unconscious; became worse in the afternoon, and the left arm also became

paralyzed, but there was no paralysis of the lower extremities. He passed water with great force. At this stage it was not thought advisable to renew the cups, and death followed after midnight.

*Post-mortem.*—*Heart.*—Right ventricle covered with fat. Left ventricle quite firm. Aorta showed an atheromatous condition.

*Liver.*—Fatty degeneration manifest.

*Brain.*—Sinuses engorged with blood. Pia mater cloudy and œdematous.

Left lateral ventricle contained a very large clot in the corpus striatum.

In the right none was perceptible, although there had been paralysis of the left arm the last day of his life.

The arteries of the base of the brain were markedly atheromatous.

## BIOLOGICAL AND MICROSCOPICAL SECTION OF THE ACADEMY OF NATURAL SCIENCES.

JANUARY 4, 1875.

DIRECTOR W. S. W. RUSCHENBERGER, M.D., in the chair.

DR. J. GIBBONS HUNT made a very interesting verbal communication upon the subject of *amplifiers for the microscope*, in the course of which he remarked that from the time of the first observation by the aid of more than two convex lenses, an almost constant effort had been made by opticians to fit in the best intermediate glasses, and yet further improvement in this respect was confidently to be looked for. The amplifier which he had upon the table consisted of a concavo-convex lens, with its concave side turned towards the eye, and so placed within the body of the microscope as to stand at a considerable distance from the objective. This adjustment of position was best accomplished by having the amplifier screwed to the end of a tube arranged with rack-work in such a manner as to traverse six or eight inches, because we could thus compensate for a want of complete correction in the objectives employed.

The advantages obtained by using an amplifier were, in the first place, gain in magnifying power, as could be seen in his microscope upon the table, when with an amplification of only 1800 diameters, afforded by a  $\frac{1}{4}$  of an inch objective, he had on exhibition the *Navicula angulatum* resolved into dots all over the field, which was apparently more than sixteen inches across. By the aid of an amplifier we also gain a greater focal distance, and an increase of flatness of field.

Amplifiers have been employed in telescopes for the past fifty years, but ten or twelve years ago they were only adapted to microscopes, in this city at least, by one or two amateurs. Subsequently, Mr. Tolles, of Boston, saw them in use here, and on his return home made one, apparently with gratifying success, as he has since kept them in stock. Some few years since, Mr. Dickinson, of New York, wrote a paper upon amplifiers, claiming that by their aid he could obtain a power of 100,000 diameters; but objects thus magnified are visible only as dim shadows, similar to those shown by the solar microscope, quite unfit for data in scientific work. Such amplification, however, may be employed upon diatoms, the resolution of which does not require definition.

Dr. J. G. RICHARDSON inquired of Dr. Hunt whether, in his opinion, the  $\frac{1}{4}$  objective associated with his amplifier, as he had it upon the table, and eye-pieced so as to give a power of 800 diameters, was equal to his Powell and Leland's  $\frac{1}{8}$  immersion lens, combined with the "A" eye-piece.

Dr. HUNT replied that on histological work the

results were not quite so good, but on *Pleurosigma angulatum* he considered them fully equal. The combination of amplifier and objective which he used was, however, a merely accidental one, so that a skilful optician would probably be able to arrange the lenses more efficiently, and thereby enable microscopists to obtain this greater amplification at a much lower cost, and yet with definition good enough for scientific work. Mr. Pigott's aplanatic searcher appeared to be a modification of the amplifier, but had proved so unsatisfactory in his hands that he had entirely laid it aside.

Dr. HUNT also exhibited a beautiful specimen of the *Protococcus nivalis*, or Red Snow, which he believed had been discovered for the first time within the United States, by Mr. Harkness, of California, who found it growing upon the Sierra Nevada Mountains. For a long time it was a matter of dispute whether this organism belonged to the animal or the vegetable kingdom; but from observations made upon specimens brought from the polar regions by Captain Parry in 1815, and which grew in bottles of snow, its vegetable nature had been demonstrated. In the growing stage, this plant is of a green color, and it is only the resting spores which present the brilliant red hue from which it derives its name. Dr. Hunt stated that on examining portions of the *Protococcus nivalis* under the micro-spectroscope he had found that its coloring-matter entirely blotted out the violet end of the spectrum, leaving the red, yellow, and orange untouched.

Dr. J. H. McQUILLEN showed a specimen of muscular fibre from the sheep, which, after the simple method of preparation of allowing it to remain between two of his own teeth for five hours, he had placed in glycerin and teased out with mounted needles, thus obtaining a magnificent view of the ultimate fibrillæ of the muscle.

Dr. J. G. RICHARDSON exhibited a fine specimen of a vertical section from the mucous membrane of the tongue of a calf mounted in balsam, which at his urgent request had been loaned to him from the Army Medical Museum. He desired to call the attention of members to the fact that each individual epithelial cell, throughout almost the whole thickness of the membrane, displayed its outline and nucleus with perfect distinctness, and that, therefore, the statement made when balsam preparations were last under discussion, that they showed hardly anything, was inaccurate.

Dr. J. G. HUNT exhibited a similar specimen of his own, mounted in glycerin, and remarked that, when thus prepared, the epithelial cells were displayed, not shrunken, but of their full size, and that those important elements, the connective-tissue fibres, were clearly visible, instead of being lost to view as in the balsam preparation.

Dr. RICHARDSON observed that even if the fresh glycerin preparations exhibited these delicate fibres more plainly, yet the specimen preserved in balsam displayed the muscular-fibre cells with far greater distinctness, and the absolute permanence of objects mounted by the balsam method constituted one of its most important recommendations.

Dr. H. C. WOOD, Jr., stated that the glycerin preparation appeared to be superior to that mounted in balsam, and moved that in order to settle this question, about which there had been so much dispute, these specimens should be referred to a committee composed of Drs. J. H. McQuillen and James Tyson, for examination and report.

Dr. J. G. HUNT exhibited an exquisite specimen of the liver of a common fly, showing with remarkable clearness the arrangement of the hepatic cells and ducts, and stated that he proposed mounting a series of preparations displaying the structure of the liver from its simplest form in the articulatæ up to its most complex arrangement in the human organism.

## REVIEWS AND BOOK NOTICES.

A PRACTICAL TREATISE UPON ECZEMA, INCLUDING ITS LICHENOUS AND IMPETIGINOUS FORMS. By DR. MCCALL ANDERSON, Professor of Clinical Medicine in the University of Glasgow, Physician to the Royal Infirmary, to the Dispensary for Skin Diseases, and to the Cutaneous Wards of the Western Infirmary, etc. Glasgow. Third Edition, with Illustrations. Philadelphia, Lindsay & Blakiston, 1875.

The contributions to dermatology which Dr. Anderson has given to the profession during the last ten years, although by no means voluminous, are of such a character as to be appreciated and valued by all who have occasion to study this class of diseases. The treatise upon eczema, of which we now have a third edition, was the first of a promised series of monographs upon the various diseases of the skin which it was the intention of the author to write, but which, unfortunately, have never been completed beyond "Diseases of Parasitic Origin," and "Psoriasis." His work upon Eczema is, without question, the most complete, satisfactory, and practical exposition of this disease which we possess, affording a clearer insight into the subject than is to be obtained from any other volume. The disease is one which has to be observed and studied in its entirety in order to comprehend it thoroughly, and it is precisely in this particular that Dr. Anderson succeeds so admirably, presenting, as he does, in his essay, a complete picture of this protean affection. Space forbids entering into the subject matter of the book, but we take great pleasure in commending it to all those who desire to obtain a knowledge of the disease and its proper treatment. It may be added that this latter subject, the treatment, as given by the author, will be found to be especially valuable to American readers, inasmuch as the views expressed coincide so entirely with the experience of certain institutions in this country where many examples of this disease annually receive care.

L. A. D.

OUTLINES OF THE SCIENCE AND PRACTICE OF MEDICINE. By WILLIAM AITKEN, M.D., F.R.S., Professor of Pathology in the Army Medical School, Corresponding Member of the Royal Imperial Society of Physicians of Vienna, etc., etc. London, Charles Griffin & Co.; Philadelphia, J. B. Lippincott & Co., 1874. Pp. 593.

In taking up this handsome volume, two important questions immediately suggest themselves,—viz., first, are not such abstracts unworthy of countenance and support, on account of their tendency to make superficial students of medicine? and secondly, admitting, for the sake of argument, that a well-arranged epitome of practical medicine is needed, have we such an example of condensation in the pages before us? We confess to a strong feeling of anxiety on the score of the abstract value of such guide, originating in the well-known circumstance that medical students are only too apt to seize with avidity any excuse for neglecting that thoroughness, or "Grundlichkeit," which should be a *sine qua non* to their entrance into our profession. Nevertheless, if, by amplifying and elevating the standard of final examinations, the use of this book could be restricted as prescribed by its author, namely, to the duty of serving as "a clinical guide and companion [to the student] in the wards of the hospital, and an aid to his memory in the lecture-room," we believe benefit, instead of injury, would arise from its employment. We would, however, indelibly impress upon the minds of all the mournful fact that dark shades to these outlines will be filled in by any and every novice who dares to take into his hands the issues of life and death

without more complete preparation than the work under consideration would alone enable him to obtain. But, granting that under proper restrictions compendiums are not unmitigated evils, we can honestly recommend this one as an excellent epitome of the essentials of the science and practice of medicine, admirably calculated to lead a true student to more thorough investigations of the subjects whereof it treats. The arrangement and general plan of the book are similar to those adopted in the author's larger work, as well as others of its class. We notice, however, some important improvements, among which the systematic prominence given in the opening chapter (all too brief as they are) to *general*, and, later in the book, to *special* pathology, as well as the method of providing careful guides to the clinical investigation and diagnosis of diseases affecting the various systems and groups of organs, are worthy of especial praise.

Of course, in such an extended work the author has not always succeeded in sifting out the most important facts, and occasionally his process of selection has been carried to an injurious extent. For example, we think that even first-course students should be taught on page 545 that oxalate of lime occurs as a urinary sediment, especially when the existence of oxaluria is recognized on page 548; and we can imagine the bewilderment of a tyro who is instructed on page 541 to administer a quarter of a grain of "morphine" as the equivalent of half a grain of solid opium or twelve drops of laudanum every hour for the relief of a "gall-stone colic." The typographical appearance is good, but the proof-reading seems to have been less careful than is customary in books printed in America, numerous misprints being overlooked, as, for instance, "aconium" for "aconitum" on page 96, and the ludicrous blunder of "diet" for "meal" on page 550. J. G. R.

## GLEANINGS FROM OUR EXCHANGES.

ESMARCH'S BLOODLESS METHOD (*New York Medical Journal*, January, 1875).—Dr. J. B. Sands reports the results of one hundred and forty-three bloodless operations performed at the principal New York hospitals.

There were sixty-three amputations, excluding those of the fingers and toes. Of these, forty-four were primary, for injury, and nineteen secondary, or for disease. Of the primary amputations, ten cases, or 22.7 per cent., terminated fatally,—the causes of death being the following: pyæmia, four; exhaustion or shock, three; spreading gangrene, one; erysipelas, one; hemorrhage, one.

Of the cases fatal from pyæmia, one patient had the disease at the time of the operation.

Of eight cases of primary amputation of the thigh, two cases, or 25 per cent., ended fatally.

Of eleven cases of primary amputation of the leg, three cases, or 27.3 per cent., were fatal.

Secondary amputations, nineteen cases, give a mortality of 21 per cent. The causes of death are stated as follows: tetanus (existing at time of operation), one; exhaustion, one; phthisis, one; pyæmia, one.

Out of fourteen cases of excision of the joints, only one proved fatal; the cause of death being pyæmia. The list included two more deaths, one following an operation for necrosis,—the only fatal case out of thirty-six,—and the other an operation for the ligation of the ulnar artery, performed for a wound near the wrist.

CASE OF NORMAL OVARIOTOMY (*New York Medical Journal*, January, 1875).—Dr. T. T. Sabine reports the case of a female, æt. 25, who was perfectly well up to eight years ago, at which time, while menstruating, she took a cold bath, which was followed by cessation of



the menstrual flow, and a very severe attack of neuralgic pain in the left iliac fossa and left limb, lasting seven weeks, and resembling, only in a much milder form, the pain which she has since suffered. The treatment was by leeches, wet cups, etc.

After this the catamenia became extremely painful, and dysmenorrhœa was constant for four years. At this time (four years ago) the dysmenorrhœa became more intense, and was accompanied by severe neuralgic pain, limited to the region of the left ovary. Patient remained in this condition until eighteen months ago, when there was a sudden increase in the severity of the attacks, probably due to frequent exposure to wet and cold. The catamenia ceased for three months, and corresponding to the menstrual periods there were attacks of intense ovarian pain, lasting about ten days. The treatment at this time was by leeches and ice locally, and the internal administration of morphine. After this time she was unable, on account of the severe pain in the region of the left ovary, to bear the weight of her body on the left limb, which was flexed and laid across the right as in *matus coxarius*.

Ovariectomy was performed, as her strength and health began to fail in consequence of repeated attacks of pain.

The left ovary was removed, and was of natural size, the stroma and capsule appearing normal on section. The relief afforded was complete, and she entirely recovered.

**PARACENTESIS PERICARDII** (*The Lancet*, December 19, 1874).—Mr. T. H. Bartlett reports the case of a young man suffering from acute rheumatism, in whom symptoms of pericarditis came on and rapidly increased in severity. The pulse and breathing were rapid and feeble, and the dyspnoea was urgent.

Cardiac dulness extended to one inch to the right of the sternum and to the upper border of the first rib above, though here the dulness was not complete. The limit of the dulness on the left side was uncertain, owing to effusion in the chest. On auscultation, the heart-sounds were very feeble and distant; no friction-sound. There was a faint mitral bruit. The character of the heart-sounds was not affected by posture. The impulse of the heart could not be felt otherwise than as an ill-defined movement of the chest-wall at the region of the apex, spreading over a space the size of a crown-piece.

It was decided to perform aspiration, and a No. 2 aspirator-needle was passed in the intercostal space between the fourth and fifth ribs, two inches to the left of the central line of the sternum. The needle was used as an exhausted needle; and as soon as the pericardium was penetrated, as shown by fluid freely passing into the aspirator, the point of the needle was pressed up against the chest-wall as closely as possible. The fluid flowed freely to fourteen ounces, and then stopped flowing. It was deeply tinged with blood, and deposited speedily a scanty coagulum, and subsequently a layer of blood-débris. The supernatant fluid, still somewhat tinged, had a specific gravity of 1024.

The patient showed immediate relief, and improved steadily until recovery was complete.

**ANEURISM.**—In his recent lectures on aneurism Mr. Holmes arrived at the following conclusions:

1. That rapidly-growing aneurisms with a thin or imperfect sac are best treated by immediate ligature, especially when caused by recent violence; and that the success of compression is doubtful in aneurisms growing towards the knee-joint, and in all others which advance rapidly.

2. That the Hunterian ligature has been about twice as successful in modern hospital practice in England as the results of the accepted statistics show it to have been.

3. That the results of the compression treatment in the same hospital have given as yet about the same average as those of the ligature, but that these results might be much improved by a more careful employment of the method.

4. That too long persistence in compression is to be deprecated, as being likely to interfere with the success of the ligature.

5. That flexion is often successful when used so as not to distress the patient, and is worthy of a trial in all cases in which it stops or materially checks the pulsation, but should not be too long persisted in when it is not at once beneficial.

6. That we have no evidence showing the utility of, or the need for, the less usual forms of treatment, such as galvanism, coagulating injections, manipulation, temporary ligature, or the introduction of foreign bodies.—*New York Medical Journal*, January, 1875.

**ACIDULATED GARGLES IN TYPHOID FEVER.**—M. A. Netter, alluding to the buccal element in typhoid fever, and to the beneficial influence of frequently-repeated acidulated gargles, draws the following conclusions:

1. Call the attention of the patients to the bad odor of their mouth, and inform them that not only in it, but also in the nose, there is something being secreted which poisons the whole system.

2. Place at their disposition an unlimited quantity of a solution containing two hundred grammes of decoction of barley, thirty grammes of honey, and twenty-five grammes of vinegar. Let them gargle and rinse the mouth with this frequently, and also snuff it into both nostrils. When they have commenced with this, it will be found so agreeable that large quantities will be consumed.—*New York Medical Journal*, January, 1875.

## NOTES AND QUERIES.

SATURDAY, January 16, 1875.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

MR. EDITOR,—As one of the "medical members" of the Board of Managers of the Episcopal Hospital alluded to in your complimentary notice, week before last, of certain supposed action of that Board in answer to an appeal from a majority of the Dispensary Staff, in relation to an alleged overcrowding of the "daily morning clinics," and to a proposed establishment of afternoon "special clinics," I beg leave to submit a few remarks which were written too late for this week's *Times*.

I wish to suggest, as an old contributor to the Hospital,—not as a Manager, since I do not speak for my associates,—that a general hospital which is still incomplete in its construction and insufficient in pecuniary resources, and in which the out-patient department is already thought to be disproportionately burdensome in cost, is hardly in condition to be used in hobby-riding, whether in the dispensary or wards. Least of all is it prepared for an expensive and difficult experiment in the department which is said to be already over-run and costing more than the Hospital can now afford.

Because a few enterprising young men, after not more than twelve months' trial of the service as it is, have come to the conclusion that the "general clinic" of the morning is too large for them to attend to properly, and now "therefore" propose to be converted into "specialists" to attend to selected cases in the afternoon, are the Managers to be driven by the fear of—well, anybody's "extraordinary" wonderment at their "Philadelphia prejudice," into sacrificing all other considerations to a hue and cry for "specialism"?

Supposing—what has not yet been "demonstrated," either by figures or by assertions,—that the general clinics were so injuriously overcrowded, is there no better way to meet the emergency than to plunge into all the perplexities, inconveniences, increased expenditure, at least temporary confusion, and greater responsibility throughout, of an attempt to provide for and invite the attendance of additional crowds of special cases in the afternoon, in order simply to lessen the excessive crowd of miscellaneous cases in the morning? If the "special afternoon clinics" were to be "allowed," as you express it, think you that "Philadelphia

conservatism" should "allow" the perversion of the still restricted funds of the Hospital—hitherto intended for what, with a clear view of all that *out-patient specialism* can effect and pretend to, I do not hesitate to regard as a much higher and broader purpose—in an undertaking which could not be saved, by the best influences now within our reach, from proving much more pretentious than practically useful for years to come? A good deal of difference of opinion very naturally exists among the members of the dispensary staff as to the need and policy of this specialist arrangement. Although six out of eight agree as to the overcrowding, some protest against the whole idea of change, and others are unsettled, if not indifferent, as to the kind and form of remedy. There is nothing to show that any of these would be willing to give up his hold on any class of cases in the morning because another set of prescribers were expected to attend to such cases in the afternoon. It would be hardly fair to advertise that the doctors, each in turn, were to treat all the cases without discrimination before dinner, but that after dinner one was to claim superior skill with certain cases, and to monopolize their treatment to the exclusion of his colleagues. Nor would it be much more encouraging to the patients to be informed that they were to go to one doctor only, and avoid the others, and to choose the right one, too, if it was after dinner, but that before dinner they were not even to be allowed a Hobson's choice! In a word, if we must have "specialism," we must first catch the specialists. No stickler for specialism could agree to any harlequin arrangement which would make the generalissimo of the morning a specialissimo of the afternoon. In fact, Mr. Reformer, there are too many lions in the way!

I have just been reading some remarks of Mr. Erichsen in his recent admirable lectures on "Hospitalism," which seem so apropos that I have taken the trouble to copy them. They are in Lecture IV. ("On the Prevention of Hospitalism"), pp. 100 and 101 of the little book. He says,—

"Thirty years ago the out-patient department was insignificant in comparison to what it now is. Dispensaries then did the work that hospitals now undertake in this respect. Not only are there the usual general medical and surgical out-patients, but very commonly out-patient arrangements are made for those affected by a variety of special diseases. Not only has the augmentation in the number of out-patients become so great as to be a source of demoralization to the public at large, of loss and injustice to the great mass of medical practitioners, of wasteful expenditure and of serious embarrassment to hospitals, but the accumulation of these crowds of diseased, often of infectious people, in the entrance-halls and 'out-patient and casualty' rooms of hospitals, has become a source of serious unhealthiness to the inmates of these institutions."

Practical study of these matters, in different places during more than thirty years, enables me to agree fully with all of this from actual experience, and with a good deal more that might be quoted with advantage. There are many reasons why a large dispensary or out-patient service is not desirable in a general hospital, although a limited one is not easily avoided, and may be very useful. Still more objectionable is it, as Mr. Erichsen very clearly shows, when allowed to be conducted within the hospital building. The greater the size the greater the objection, as a matter of course. The Episcopal Hospital plan of construction includes a separate out-patient building, to be placed as far on the one side from the corresponding wing as the laundry and dead-house are on the other. The present arrangements are altogether temporary; and so ought to be the much more commodious and convenient rooms in the basement of the nearly completed second wing.

"Specialism," at least in the multiple and attenuated form now struggling into notice, was very little contemplated in our original hospital design. I suspect there will be ample time for its full consideration before the proper out-patient building is constructed. In the mean time, I trust the *Philadelphia Medical Times* may possess its soul in patience, and prevail upon its friends to wait more quietly. Some of them, perhaps, may be less dazzled in the lapse of years—say the "two or three generations" mentioned—with the view of the "special" pinnacles on which they are now so anxious to be perched.

We hear much about old-fogyism in all "progressive" movements. Is it not well to remember that *young-fogyism* is the rampant evil?—that it is at least as rife on these occasions, and much more apt to cost a great deal more in work and means than it comes to? Allow me just to hint, in conclusion, that although specialism is far from being a "new" thing in any sense among us, it still is, unhappily, a very crude thing in many places, and in many of its forms and aspects. If you wish to see some of these in their true light, please put on a clearer pair of spectacles. If the glasses must be colored, do let the tint be neutral. Above all things, don't let them magnify beyond ordinary comprehension when they are directed towards a mare's nest; and let the field of vision be large enough to take in a view of the question which may, at least, be worth a practical examination.

Respectfully,

EDWARD HARTSHORNE.

[WHEN we printed Dr. Knight's note last week, we supposed that he was correctly informed as to the matter concerning which he was writing, and accordingly acquiesced in his statement that we "had no case at all." Further inquiry has revealed the fact that we were right in our first position: the petition *did* come from the dispensary staff, one or more meetings of which were held about the matter, as stated in the notices issued, the staff being unanimous with a single exception. We therefore fall back in good order upon our original position. In regard to Dr. Hartshorne's letter, he greatly misunderstands us if he believed we had the slightest intent to "drive" him or the Board. We do not waste effort in attempting impossibilities. If he will re-read our editorial paragraph, he will see that it was written concerning *un fait accompli*, simply bringing it forward as an example of the opposition to specialism which certainly does prevail largely in the minds of the older members of the profession in this city. It is impossible to create skilful specialists without offering dispensary or hospital opportunities for them to perfect themselves. You will never get the loaf before you sow the wheat. To attempt to "catch specialists" before you have specialism is as foolish as to look for chickens where there have been no eggs. If specialism is "crude" among us, it is simply because the dispensaries and hospitals will not allow special departments in which specialists may be trained. If we have so much "rampant young-fogyism," certainly our crudeness is not because we are wanting in those of spirit and power to work out from this crudeness. We do not think this letter of Dr. Hartshorne's will convince any one that if he wanted special clinics there would be any insuperable difficulties in the way. If he really desired to go up to the palace called Beautiful, like Christian, he would find the "many lions" very harmless animals.—Editor P. M. T.]

#### TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

DEAR SIR,—In the last issue of the *Times* your Japan correspondent portrays what he supposes to be an undescribed form of disease, which he designates "Japanese Leprosy." He states that he has never seen it "described in any medical work or journal," leading one to suppose that the symptoms are those of some new variety. The question of interest in the case is simply whether the leprosy of Japan is different from that of any other country. The symptoms detailed in the description of the cases cited are those of the well-known anæsthetic variety of the disease, as it is encountered in many portions of the globe, and certainly present nothing peculiar or new. If, however, there are other symptoms, not common to the leprosy of India and the East generally, which the leprosy of Japan offers, it will be of interest to have the same fully recorded, that our knowledge of this fearful malady may be thereby enriched.

Very respectfully yours,

L. A. DUHRING.

1416 SPRUCE STREET, January 19, 1875.

#### PHILADELPHIA COUNTY MEDICAL SOCIETY.

A SPECIAL meeting of the Society will be held Monday, February 1, 1875, at 8 o'clock P.M., at the Hall of the College of Physicians.

Dr. Washington L. Atlee will deliver his retiring address as President. Subject: A Retrospect of the Struggles and Triumph of Ovariectomy in Philadelphia.

The medical profession in the city are cordially invited.

#### OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY, FROM JANUARY 19, 1875, TO JANUARY 25, 1875, INCLUSIVE.

KNICKERBOCKER, B., ASSISTANT-SURGEON.—Temporarily assigned at Fort Vancouver, until the season will admit his joining his proper station,—Fort Colville, W. T. S. O. 5, Department of the Columbia, January 11, 1875.

KINSMAN, J. H., ASSISTANT-SURGEON.—Assigned to duty at Fort Seward, D. T., until further orders. S. O. 9, Department of Dakota, January 16, 1875.

HEIZMANN, C. L., ASSISTANT-SURGEON.—Granted leave of absence for six months, with permission to go beyond sea. S. O. 13, A.G.O., January 20, 1875.

WILSON, A. D., ASSISTANT-SURGEON.—Assigned to duty at Camp McDowell, Arizona Territory. S. O. 2, Department of Arizona, January 7, 1875.

SKINNER, J. O., ASSISTANT-SURGEON.—Leave of absence extended for one month, with permission to apply to the Headquarters of the Army for a further extension of three months. S. O. 7, Military Division of the Pacific, January 12, 1875.